View metadata, citation and similar papers at core.ac.uk
brought to you by CORE
provided by Elsevier - Publisher Connector

MA3

COMPARATIVE OUTCOMES OF FIBROMYALGIA PATIENTS WHO INITIATED DULOXETINE OR PREGABALIN: MEDICATION ADHERENCE AND DIRECT MEDICAL COSTS

Sun P[1], Peng X[2], Sun S[3], Novick D[4], Faries D[2], Andrews J[2], Wu A[5], Wohlreich M[2]
[1]Kailo Research Group, Fishers, IN, USA, [2]Eli Lilly and Company, Inc., Indianapolis, IN, USA, [3]Kailo Research Group, Fremont, CA, USA, [4]Eli Lilly and Company, Inc., Windlesham, Surrey, UK, [5]Kailo Research Group, Los Angeles, CA, USA

OBJECTIVES: To compare medication adherence and direct medical costs between duloxetine and pregabalin among fibromyalgia patients. **METHODS:** A retrospective cohort study design was used along with a large US national commercial claims database (2006~2009). Fibromyalgia patients who initiated duloxetine or pregabalin in 2008 at age between 18 and 64, and with continuous health insurance 1 year before and 1 year after initiation were assigned to a duloxetine initiator cohort or a pregabalin initiator cohort based on their initiated agent. Medication adherence of duloxetine or pregabalin, measured by total supply days, medication possession ratio (MPR) and proportion of patients with MPR≥0.8, and direct medical costs, measured by annual costs per patient, were assessed and compared between the cohorts in the year following the initiation. Bootstrapping and propensity score stratification methods were used to adjust for distribution bias, as well as cross-cohort differences in demographics, clinical and economic characteristics, and medication history prior to the initiation. **RESULTS:** Both the duloxetine (n = 3,033) and pregabalin (n=4,838) cohorts had a mean initiation age around 49 years, 89% were female. In the post-initiation year, compared to the pregabalin cohort, the duloxetine cohort had higher totally annual supply days (273.5 vs. 176.6, p<0.05), higher MPR (0.7 vs. 0.5, p<0.05) and more patients with MPR≥0.8 (45.1% vs. 29.4%, p<0.05). Further, relative to pregabalin initiators, duloxetine initiators had lower inpatient costs ($2,994.9 vs. $4,949.6, p<0.05), low outpatient costs ($8,259.6 vs. $10,312.2, p<0.05), similar medication costs ($5,214.6 vs. $5,290.8, p>0.05), and lower total costs ($16,469.1 vs. $20,552.6, p<0.05) in the post-initiation year. **CONCLUSIONS:** In a real-world setting, fibromyalgia patients who initiated duloxetine in 2008 were associated with higher adherence and lower inpatient, outpatient and total medical costs than those who initiated pregabalin.

MA4

DOES PEN HELP WHEN ELDERLY PATIENTS WITH TYPE-2 DIABETES INITIATE INSULIN? A REAL-WORLD RETROSPECTIVE STUDY OF INITIATING INSULIN GLARGINE VIA DISPOSABLE PEN VERSUS VIAL

Miao R[1], Wei W[1], Xie L[2], Baser O[2]
[1]Sanofi-Aventis, Bridgewater, NJ, USA, [2]STATinMED Research/The University of Michigan, Ann Arbor, MI, USA

OBJECTIVES: To evaluate real-world outcomes among elderly patients (≥65 years) with type 2 diabetes mellitus (T2DM) initiating insulin treatment with insulin glargine via disposable pen (IG-Pen) or conventional vial/syringe (IG-Vial). **METHODS:** The MarketScan® Medicare database was used to identify T2DM patients ≥65 years who initiated insulin treatment with IG-Pen or IG-Vial from January 2007 through June 2009. All patients had continuous health plan coverage for >6 months before (baseline) and >1 year after the index date (follow-up), and were insulin-naïve but had ≥1 oral anti-diabetes drug (OAD) or glucagon-like peptide-1 (GLP-1) analog during the baseline period. Endpoints included 1-year treatment persistence (continuous study drug use without discontinuation) and adherence (adjusted medication possession ratio: aMPR), hypoglycemia-related events, healthcare utilization and costs. Stringent 1:1 propensity score matching was applied to remove observed baseline selection bias between the two cohorts. **RESULTS:** A total of 5,860 patients were matched and analyzed (n=2,930 in each cohort; 44% women; median baseline age 74 years, number of OADs 2.1, Charlson comorbidity index 1.29). During the 1-year follow-up, those who initiated with IG-Pen were more persistent (58.2% vs. 50.8%; P<0.0001), and adherent (aMPR 0.69 vs. 0.64; P<0.0001), had lower daily average consumption of insulin (28.6 U/day vs. 32.0 U/day; P=0.0002), were less likely to have hospitalization (all-cause 33.0% vs. 37.5%, P=0.0002; diabetes-related 16.7% vs. 18.8%, P=0.037), and had similar total healthcare costs ($22,265 vs. $21,669; P=0.5085), despite higher diabetes drug costs ($2,166 vs. $1,907; P<0.0001). Hypoglycemia-related event rates were 8.6% with IG-Pen vs. 10.4% with IG-Vial (P=0.0164). **CONCLUSIONS:** This real-world study showed that for elderly T2DM patients initiating insulin treatment, using a pen rather than vial/syringe was associated with better treatment persistence and compliance, without increasing healthcare costs during the first year after initiation. These results may assist with clinical decision making and help optimize T2DM management in elderly patients.

PODIUM SESSION II:
OUTCOMES RESEARCH STUDIES USING MODELING

MO1

NEW CONCEPTS IN DISCRETE CHOICE PREFERENCE MEASUREMENT: AN APPLICATION TO DRUG TREATMENT FOR JUVENILE IDIOPATHIC ARTHRITIS

Regier DA[1], Burnett HF[2], Ungar W[2]
[1]BC Cancer Agency Research Centre, Vancouver, BC, Canada, [2]Hospital for Sick Children, Toronto, ON, Canada

OBJECTIVES: Advancements in the econometric modeling of discrete choice experiment (DCE) data allow for the quantification of individual-specific utility. With a view to improve the precision and face validity of DCE-derived willingness to pay (WTP) estimates, we investigate incorporating a 'choice certainty' question into the elicitation and estimation of DCE data. **METHODS:** The DCE elicited parents' preferences surrounding drug treatment for juvenile idiopathic arthritis. Two alternatives in each question differed on six attributes: drug administration, child reported pain, participation in activities, side-effects, school days missed, and cost. Respondents rated the certainty for each of their choices on a Likert scale. The mixed logit model allowed estimating individual-specific utility values. Respondents' choice certainty was incorporated into the model by re-weighting the simulated likelihood function. The D-error metric was used to investigate improvements in precision. Monte Carlo simulation techniques were used to generate individual-level population WTP estimates to investigate face validity. **RESULTS:** 105 parents of children with juvenile idiopathic arthritis at The Hospital for Sick Children, Toronto, Canada completed 16 choice and choice-certainty questions. The D-error statistic demonstrated a 53% gain in efficiency under the choice certainty approach. Under the standard approach, the mean WTP for a child who moved from responding inadequately to methotrexate and adequately to etanercept was $2,105 per month; 95% of the simulated individual-level population WTP estimates fell between $360 and $12,743 per month. When choice certainty was accounted for, mean willingness to pay was $2,167 and 95% of the simulated individual-level population estimates were between $405 and $11,866. **CONCLUSIONS:** The stated preferences of parents' of children with juvenile idiopathic arthritis suggest that this population is, on average, willing to pay $2,167 per month to improve children's well being. The choice certainty approach improved the precision of the parameter estimates and the range of willingness to pay values.

MO2

THE COST-EFFECTIVENESS OF PRIMARY STROKE CENTERS FOR ACUTE STROKE CARE

Guzauskas GF[1], Boudreau DM[2], Villa KF[3], Levine SR[4], Veenstra DL[5]
[1]University of Washington, Seattle, WA, USA, [2]Group Health Research Institute, Seattle, WA, USA, [3]Genentech, Inc., South San Francisco, CA, USA, [4]SUNY Downstate Medical Center, Brooklyn, NY, USA, [5]University of Washington, Pharmaceutical Outcomes Research and Policy Program, Seattle, WA, USA

OBJECTIVES: Primary stroke centers (PSC) have been shown to improve survival in patients with acute ischemic stroke (AIS). The objective of this study was to evaluate the cost-effectiveness of treating AIS patients in a PSC compared with a non-PSC hospital setting. **METHODS:** A decision analytic model was developed to project the lifetime outcomes and costs for AIS patients. Clinical data were derived from a recent observational study comparing existing PSC- and non-PSC-admitted patients, the NINDS and ECASS III clinical trials, longitudinal cohort studies, and health state preference studies. Annual cost data were based on Medicare reimbursement and other published sources, and did not include start-up costs. The model used a health care payer perspective, and the primary outcomes were incremental life expectancy, quality-adjusted life years (QALYs), and health care costs. Sensitivity and scenario analyses were performed to evaluate uncertainty in the results. **RESULTS:** Admission to an existing PSC resulted in a gain of 0.22 years of life (95% credible range [CR], 0.12 - 0.33) and 0.15 QALYs (95% CR, 0.08 - 0.23) per patient, at a cost of $3600 (95% CR, $2400 - $5000) per patient, compared with admission to a non-PSC hospital. The incremental cost per QALY gained was $24,000, and the results in all probabilistic simulations were below the $100,000/QALY threshold. The cost-effectiveness improved as the number of stroke patients admitted per year and use of recombinant tissue plasminogen activator increased. **CONCLUSIONS:** Modeling analyses support the hypotheses that PSCs provide meaningful long-term benefits to AIS patients and are cost-effective.

MO3

COST-EFFECTIVENESS ANALYSIS OF DIFFERENT STRATEGIES FOR FRAGILITY FRACTURE PREVENTION IN UNITED STATES MALE VETERANS

Lafleur J[1], Nelson RE[2], Adler RA[3], Nebeker JR[2], Nelson S[2], Smith J[4], Malone DC[5]
[1]University of Utah Pharmacotherapy Outcomes Research Center, Salt Lake City, UT, USA, [2]University of Utah, Salt Lake City, UT, USA, [3]Virginia Commonwealth University, Richmond, VA, USA, [4]VA Salt Lake City Healthcare System, Salt Lake City, UT, USA, [5]University of Arizona, Tucson, AZ, USA

OBJECTIVES: Absolute risk assessment (ARA) is promoted for guiding osteoporosis treatment decisions. Competing guidelines lack clarity on how to incorporate ARA into practice. We compared 6 strategies to identify one that minimized cost and optimized quality-adjusted life years (QALYs) in United States (US) veterans. **METHODS:** We developed a Markov model comparing 6 strategies in elderly male veterans including (1) ARA alone, (2) ARA in concert with BMD screening, (3) BMD screening alone, (4) waiting for fracture, (5) doing nothing, and (6) an approximation of current care, which included a combination of strategies 2-5. Health states included community, nursing-home, and death. Three models with different assumptions concerning treatment efficacy among high-risk versus osteoporotic patients were developed: equivalent, reduced, and lacking. The time horizon and perspectives were 30-years and the Veterans Health Administration (VHA). Parameter estimates were derived from the literature and analyses of VHA data. First- and second-order Monte-Carlo simulations were conducted 10,000 and 1,000 times, respectively. **RESULTS:** The total costs incurred under the assumption of equivalent efficacy ranged from $86,049 for ARA alone to $88,360 for BMD screening alone. The total QALYs realized ranged from 10.87 for doing nothing to 10.90 for ARA alone. Compared to the current standard, the incremental cost-effectiveness ratio (ICER) for BMD screening alone was $34,833/QALY, but ARA alone dominated all strategies. Results were similar but less pronounced for the alternative assumption of reduced efficacy for treatment in high-risk patients. The third assumption of non-efficacy in high-risk patients produced an ICER of $154,367/QALY for BMD screening alone compared to ARA alone, which dominated all other strategies. **CONCLUSIONS:** ARA may represent an important tool for minimizing cost and optimizing fracture prevention outcomes in US veterans.